

**Customer No. 31013****Attorney Docket No.: 099782/00001****REMARKS**

Claims 1-42 are pending in this application. Applicant thanks the Examiner for the courtesies extended during the telephone interview conducted on March 17, 2006.

Claims 1-4, 6, 8-10, 12-14, 17, 26, 34-35 and 37-42 stand rejected under 35 U.S.C. §102(b) as being unpatentable over U.S. Patent No. 6,012,042 to Black ("Black"). Claims 7, 11, 15-16 and 36 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Black. Claim 5 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Black and the printed publication "Vertex Interactive Chosen Among Top 100 Leading Edge Supply Chain Vendors By Supply Chain e-Business" ("Vertex"). Claims 18-23 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Black in view of U.S. Patent No. 6,850,897 to Paquette ("Paquette"). Claim 24 stands rejected under U.S.C. §103(a) as unpatentable over Black and Paquette and further in view of U.S. Patent No. 6,976,001 to Manganaris et al. ("Manganaris"). Claims 25, 27 and 32-33 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Black in view of U.S. Patent No. 5,819,238 to Fernholz ("Fernholz"). Claims 28-31 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Fernholz.

At least for the reasons set forth herein, Applicant respectfully submits that the pending claims are neither taught nor suggested by any of the references cited in the Office Action, either individually or in combination. Prompt allowance of the pending claims is earnestly solicited.

**The Claimed Invention**

The presently claimed invention is directed to methods for evaluating an investment portfolio using an approach that is nowhere taught or suggested in the prior art. In particular, the

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presently claimed invention recites various combinations of features including fiscal data realignment, negative base value inclusion and a stability ratio. As explained below, the references relied on in the pending action do not teach or suggest any of these features. For example, independent claim 1 recites a method for evaluating an investment portfolio employing data realignment:

accessing data for a plurality of companies in an investment portfolio;

fiscally realigning the data ;

calculating at least on predetermined set of values for each company using the fiscally realigned data.

As explained in the specification of the pending application, traditional analyses of, for example, mutual funds, do not analyze comparable time periods (*e.g.*, substantially aligned time periods) for holdings in the mutual fund or investment portfolio. *See* Specification at [0011, 0025-35]. The fiscal realignment as recited in the pending claims, however, provides substantially aligned data and thus data for more comparable time periods than the data used in the prior art. *Id.* Independent claims 32, 34, 37 and 42 also recite this fiscal realignment feature. Further, data realignment is applied to data for more than one company in the claimed analysis.

Another aspect of the presently claimed invention is directed to inclusion of negative base values, such as rates or ratios calculated with negative base values, for fundamental measures in evaluating the holdings in an investment portfolio — values that are traditionally excluded in the prior art analysis of companies in a portfolio. *See* Specification at [0011, 0014 and 0041-42]. For example, as amended, claim 24 recites:

The method of claim 23, wherein the aggregated values include at least one predetermined set of values for a respective one of the plurality of companies having a negative base value.

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Yet another aspect of the claimed invention includes evaluating an investment portfolio by generating a stability ratio based on the number of and value of completely new and completely sold holdings in an investment portfolio. This feature is recited in independent claims 28 and 32. Claim 28 is representative and recites, in pertinent part:

summing one of (a) the number of completely new holdings and the number of completely sold holdings and (b) the value of the completely new holdings and the value of the completely sold holdings;

dividing the summed value by one of the number of holdings of the first predetermined time and the value of holdings at the first predetermined time to produce a stability ratio;

This aspect of the claimed invention uses the stability ratio as a unique measure of how much change has taken place in a portfolio between two points in time.

As explained below, none of the references cited in the Office Action anticipate the claimed invention. Moreover, even if some of the references were combinable, which they are not, there is no motivation to combine the references. As recently explained by the Federal Circuit:

mere identification in the prior art of each element is insufficient to defeat the patentability of the combined subject matter as a whole

*In re Kahn*, 441 F.3d 977, 986 (Fed. Cir. 2006). Moreover, obviousness requires existence of motivation to combine the elements from different references, and further, that a person skilled in the art would expect success in making the invention with the combination. *Medichem, S.A. v. Rolabo, S.L.*, 437 F.3d 1157, 1165 (Fed. Cir. 2006). No such motivation or expectation of success is provided by any of the cited references.

**Customer No. 31013****Attorney Docket No.: 099782/00001****The Prior Art Does Not Teach Or Suggest The Claimed Invention****Black Aligns Data And Does Not Describe Any Data Realignment,  
Negative Value Inclusion or a Stability Ratio**

The primary reference relied on in the Office Action is Black. This reference, however, completely lacks the various features recited in the pending claims. In particular, Black is directed to a system for simultaneously combining fundamental and technical data to analyze stocks using a unified format. (Black at Abstract). Black describes fundamental data as data typically found in company disclosures, for example, earnings per share, and describes technical data as daily price related data, for example daily price and volume amounts. (*Id.* at 2:8-24).<sup>1</sup> Black also distinguishes fundamental data and technical data based on fundamental data being generally not reported on a frequent or regular basis, while technical data “is usually stored on a daily (or other regular period) basis.” (*Id.* at 2:22-24). As a result, Black describes that while it may be of interest to review fundamental and technical data, the prior art (according to Black) did not describe how to combine these types of data. (*Id.* at 2:42-67).

To address this alleged problem, Black describes creating a unified format containing technical and fundamental data. (*Id.* at 3:1-10). More particularly, Black describes insertion of nil values into the fundamental data to create a day-by-day calendar of values, thus making the fundamental data compatible with the technical data, which exists on a daily basis. (*Id.* at 7:1-30). According to Black, the technical data also can have nil values inserted for those days where no technical data is reported (*e.g.*, Saturdays and Sundays). (*Id.*).

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<sup>1</sup> Citations to the prior art are made using the “col:line” format throughout this Response.

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Importantly, Black expressly teaches that realigning data, as recited in certain of the pending claims, is not permissible. For example, Black describes that in filling in values on a day-by-day basis to make the technical and fundamental data combinable in a unified format, requires "preserving" day-to-day correspondence and there cannot be any data realignment:

The above methodology for preserving the empty elements (except for purposes of calculations) is necessary for later combining the time series (technical) data for a security with other series data, and matching the two series element to element and date to date, despite the presence of empty elements in the series. This correspondence is clearly necessary because analysis calculations combining time-dependent values from two or more related series are made, and allowance must be made for the empty values interspersed therein.

(*Id.* at 6:38-47) (emphasis added); (*see also* Black at 7:14-17).

Therefore, Black requires exact data alignment — not fiscal data realignment as recited in the pertinent pending claims. Further, Black mentions nothing about changing the effective dates of data, as described in the specification of the pending application in the context of realignment — shifting the effective date of fiscal data for purposes of the analysis. *See, e.g.*, Specification at [0021-33]. The citation to portions of Black in the Office Action (*e.g.*, Black at 3:4-6, 59-61; 4:21-26; 9:55-63) do not describe the data realignment recited in the claims. As explained above, Black describes combining fundamental and technical data on a day-by-day basis in exact alignment — unified fundamental and technical data is not the recited realigned data.

Further, Black analyzes companies one at a time and does not analyze stock portfolios or other investment portfolios containing multiple companies, as recited in the pertinent pending claims. For example, all of the examples in Black refer to unifying data for a particular stock and the specification also describes the analysis of one stock at a time. (*See, e.g.*, Black at Figs.

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3, 4, 1:21-25, 9:59-63). Here, again, the Office Action mischaracterizes Black. The Office Action's citation to Black at 1:40-44; 2:63-67 and 3:44-50 nowhere describes creating "unified format" for multiple companies that are aggregated — only "unified format" for particular companies is described in Black. For example, 3:37-48 of Black is cited in the Office Action (Office Action at 2) as describing data for multiple companies, but that portion of Black only generally describes use of a computer system to analyze securities, but does not describe aggregating values for multiple companies as part of the analysis — as described above, Black's analysis is performed separately for each stock.

As a result, the description in Black fundamentally differs from the claimed invention. First, as explained above and in Black, the Black approach has no data realignment. For example, using the Black approach, a quarterly earnings value for the three months ending in May would assign that value to every day from March 1 to May 31 with no realignment of data. The claimed invention, however, would change the dates for the fiscal quarter ending May 31 to begin on April 1 and end on June 30, allowing the realigned data to be aggregated with the second quarter data for other companies in a portfolio. *See, e.g.*, Specification at [0024-33].

Second, Black makes no mention of any use of negative values. Third, Black does not describe any stability ratio or anything even akin to the claimed stability ratio. Finally, whatever Black does describe, it applies to analysis of a particular company and not to aggregated analysis of multiple companies in an investment portfolio to evaluate the portfolio, as recited in the pending claims.

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Therefore, Applicant respectfully asserts that at least for the reasons set forth above, Black does not anticipate any of claims 1-4, 6, 8-10, 12-14, 17, 26, 34-35 and 37-42, nor does it render any of claims 7, 11, 15-16 and 36 obvious.

**Paquette Describes Analysis Of An Organization And Does Not Cure The Deficiencies Of Black**

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The Office Action rejects claims 18-23 as obvious over Black in view of Paquette. As claims 18-23 all depend indirectly from independent claim 1, claims 18-23 are not obvious for the reasons set forth above in connection with Black. Further, Paquette describes analysis of an organization and does not cure the deficiencies of Black detailed above.

More particularly, Paquette merely purports to describe an algorithm for calculating the relationship between profitability, revenue growth, asset support of revenue and equity financing assets in order to determine the financial condition of an organization, such as a for-profit or not-for-profit company. (Paquette at 1:7-57). In view of the subject matter of Paquette, it is difficult to understand how such a reference adds anything to Black or the admitted prior art — Applicant admits that the fundamental financial measures such as described in Paquette (*e.g.*, profitability, revenue growth, asset support of revenue and equity financing assets) existed prior to the claimed invention. *See, e.g.*, Specification at [0002]. Such fundamental values themselves, however, are the subject matter of Black but not the subject matter of the claimed invention. Rather, evaluation of fundamental values in a novel and non-obvious way to evaluate an investment portfolio is the subject matter of the pending claims.

Furthermore, nothing in Paquette describes or suggests use of its teaching with data realignment to evaluate an investment portfolio, a feature which also is not described in Black as explained above. For example, claims 18-23 recite use of aggregated values to evaluate a

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portfolio based on fiscally realigned data. Neither Black nor Paquette discuss portfolio aggregates based on realigned dates of values. Further, Black does not teach how to combine data of two different companies and neither Black nor Paquette aggregate data. As a result, there is no teaching in Black or Paquette of how data for companies using different calendar quarter periods should be added.

Therefore, Applicant respectfully asserts that at least for the reasons set forth above, Black and Paquette, individually or in combination, do not render obvious any of claims 18-23.

**Manganaris Describes Data Mining For A Basket Of Goods And Does Not Cure The Deficiencies Of Black and Paquette**

The Office Action rejects claim 24 as obvious over Black, Paquette and Manganaris. Since claim 24 depends indirectly from independent claim 1, the deficiencies of Black described above in connection with claim 1 apply equally to claim 24. Moreover, neither Paquette nor Manganaris (as described below) cure the deficiencies of Black.

Manganaris describes data mining to determine product dynamics, *e.g.*, the relationship of one item in a basket to another item in the same basket in order to gain an understanding of the purchasing habits of persons. (See Manganaris at 3:28-33). To the extent Manganaris makes mention of a negative value, it does so in the context of an "aggregate property enhancement process" that examines the "market basket dynamics" for the purchase of consumer goods:

The aggregate-property enhancement process illustrated with respect to FIG. 3 enables the discovery of patterns that characterize or discriminate market baskets having particular overall properties, *i.e.*, the market basket dynamics. Aggregate properties of a market basket would be, for example, a market basket that has an overall negative gross margin or a market basket that has an overall "high" gross margin. As shown in FIG. 3, a logical grouping of data (*e.g.*, all the items contained in a market



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basket) are identified as possessing, as a whole, one or more specified properties.

(*Id.* at 6:60-67).

Manganaris' overall negative gross margin, a negative aggregate basket of goods, does not teach anything about aggregating individual companies that have a rate or ratio with a negative base value, as recited in claim 24. As explained in paragraphs [0040-50] of the specification, the claimed invention includes companies in the evaluation of portfolio even when the a financial measure for one of the companies has a negative base value which would exclude the company from inclusion in a conventional analysis of the portfolio. Managanaris describes nothing about rates or ratios having negative base values, nor how to include such companies in the analysis of a portfolio. As a result, there is no reason, much less motivation, to look to Manganaris to "use the values as calculated, and not drop negative values as is done in some cases, such as to provide investors with the full data set in reviewing rated securities." Office Action at 14.

Indeed, such motivation does not exist as Black and Paquette not only describe different environments (fundamental data/technical data unification versus organizational analysis), but also each describe processes applied to a single entity (e.g., a stock or organization) and do not address adding values of more than one entity. There simply is no motivation to combine negative aggregates of, for example, many stocks with the data of one stock. Therefore, Applicant respectfully asserts that at least for the reasons set forth above, Black and Paquette and Manganaris are not properly combinable, and even if they were (which there is no reason to do), still would not render obvious claim 24.

**Customer No. 31013****Attorney Docket No.: 099782/00001****Fernholz Describes A Dynamic Trading System To Conform A Portfolio With A Market Index**

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Finally, the Office Action rejects claims 25, 27 and 32-33 as obvious over Black and Fernholz, while claims 28-31 are rejected as obvious solely based on Fernholz. Fernholz does not cure the deficiencies of Black explained previously and completely fails to describe the stability ratio recited in claims 28-31. Applicant respectfully submits that since claims 25 and 27 depend from claim 1 and claims 32 and 33 recite the same fiscal data realignment recited in claim 1, the deficiencies of Black described above in connection with claim 1 apply equally to claims 25, 27, 32 and 33.

In short, Fernholz describes an automated trade execution method which dynamically compares two portfolios and determines which trades to execute in order to make the "current" portfolio the same as the "target" portfolio. More particularly, Fernholz describes that the "target" portfolio has a pre-defined universe of securities (*e.g.*, an index fund). (*Id.* at 1:19-25, 40-45). Fernholz determines a variable target weighting for each of these predetermined securities. (*Id.*) Trades are then executed based on these targets to rebalance the "current" portfolio. (*Id.* at 4:14 to 5:20). Fernholz also provides data on the number of shares to be bought, traded, executed, as well as account cash balance. (*Id.* at 20:35-59, 21:16-23). Fernholz further describes providing output of the number of trades to execute, account holdings and value, pre- and post- rebalancing and returns on the account.

Nowhere, however, does, Fernholz describe anything about realigning fiscal data to compare companies. As a result, Fernholz cannot, and does not, cure the deficiency of Black which also lacks any data realignment. Further Fernholz does not calculate a stability ratio — Fernholz dynamically compares two portfolios and determines trades necessary to make them

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equal, but Fernholz does not take a “snapshot” of the portfolio at two different times and then, comparing the two snapshots, determine completely new and completely sold holdings, a recited in claims 28-31. Indeed Examiner admits as much: Fernholz does not teach producing a stability ratio. Office Action at 17, 18-19. (emphasis added). The Examiner’s admission makes sense as the claimed stability ratio is unrelated to rebalancing a portfolio in accordance with an index as described in Fernholz — evaluating completely new and completely sold holdings would serve no purpose in the Fernholz system since only completely new and completely sold holdings would not be sufficient to make a “current” portfolio equal to a “target” portfolio.

Incredibly, although admitting that Fernholz does not disclose creating the stability ratio recited in independent claims 28 and 32, the Office Action alleges, with no support, that it would be obvious to perform the claimed elements of:

summing one of (a) the number of completely new holdings and the number of completely sold holdings and (b) the value of the completely new holdings and the value of the completely sold holdings;

dividing the summed value by one of the number of holdings of the first predetermined time and the value of holdings at the first predetermined time to produce a stability ratio;

Office Action at 18-19.

Therefore, Applicant respectfully asserts that at least for the reasons set forth above, Black and Fernholz, individually and in combination, do not render obvious claims 25, 27, 28-31 and 32-33.

For the same reasons set forth above that claim 1 is not anticipated by Black, Applicant respectfully asserts that claim 5 (which depends from claim 1) also is not taught or suggested by Black or Vertex, individually or in combination.

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Therefore, Applicant respectfully submits that all of the pending claims are in condition for allowance. Allowance of the pending claims is respectfully requested.

No other fee is believed to be due in connection with the submission of these papers. However, the Director is hereby authorized to charge any fee deficiency or credit any overpayment to Deposit Account No. 50-0540.

Dated: June 5, 2006

Respectfully submitted,

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